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Burns et al. (43) Pub. Date: **Nov. 14, 2002**(54) **DATA PLACEMENT AND ALLOCATION
USING VIRTUAL CONTIGUITY**(22) Filed: **May 8, 2001****Publication Classification**(75) Inventors: **Randal Chilton Burns**, Sunnyvale, CA
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poration**, Armonk, NY(21) Appl. No.: **09/850,824**(57) **ABSTRACT**

A data storage system randomly determines a start offset at which to write objects to a storage medium. For updated blocks of the object, e.g., for blocks written during copy-on-write as part of a point-in-time snapshot, the updated block is written in the region of the original file or as close thereto as possible to achieve "virtual contiguity". Subsequent reads of the object read entire region containing both the object and, potentially, "chaff" data other than the object. The "chaff" data is discarded by the I/O system or file system using, e.g., a bit mask, subsequent to the read.

